A Journal Devoted to Healthful Living

HEALTH

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Edited by Dr. U. Rama Rau & U Krishna Rau M.B.B.S

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EDITORIAL

VITAMINS

'VITAMIN', also spelt 'Vitamine', is defined in the Medical Dictionary as 'one of a class of substances of unknown composition, existing in minute quantity in natural foods and necessary to normal nutrition and growth, absence of which from the diet produces deficiency diseases such as beri-beri, scurvy, rachitis'. In ancient days, when medical science was undeveloped and when people lived almost in communion with Nature and ate such foods as Nature produced, in their raw state, they never troubled themselves about Vitamins, for they unknowingly consumed vitaminous foods and led long healthy lives.

But with the dawn of civilization and the craving for refined and tasty foods, the natural raw food-stuffs had to undergo a number of processes such as cooking, frying, preserving and tinning, with the result that the Vitamin contents of these stuffs were either decreased or altogether destroyed. This accounted for a number of diseases which the medical profession were incapable of diagnosing, much less curing, and were cured only when Vitamins were supplied. As one doctor remarked: "We cannot see them (Vitamins), nor feel them nor touch them. We know them best by what they do, or better still, by what happens when they are absent". Sir FREDERICK GOWLAND HOPKINS was the first to discover Vitamins in his laboratory. Many diseases are to-day traced to a deficiency or excess of Vitamins in the body.

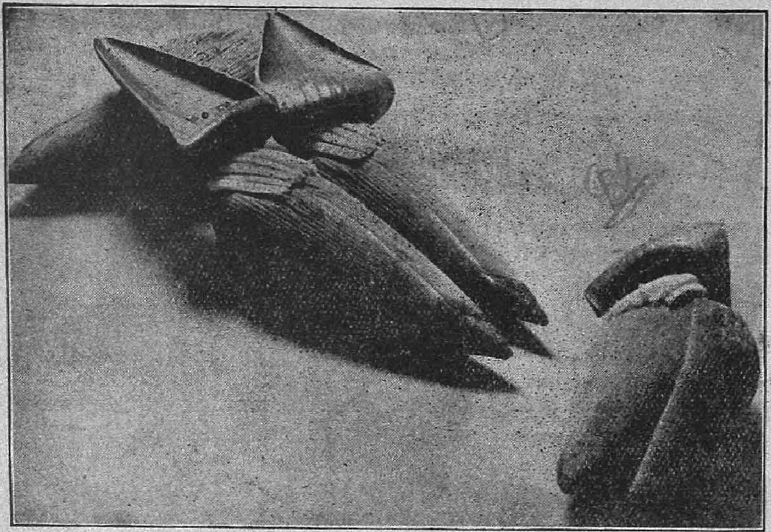
These mysterious Vitamins go by the names of the different letters of the English alphabet. There are at present ten classified Vitamins of which 7 are known to chemical science: (1) Vitamin A, (2) Vitamin B of which there are various sub-divisions, (3) Vitamin C, (4) Vitamin D, (5) Vitamin E or X, as it is otherwise

called, (6) Vitamin H and (7) Vitamin K. Vitamin P is the latest addition.

(1) Vitamin A is a fat-soluble vitamin, a crystalline, colourless greasy substance, which is built up in the body from yellow carotene, the yellow pigments of such vegetables as carrots, spinach, etc. It is stored in the liver. So, fish liver serves as a good medicine. Important sources of Vitamin A are milk, butter, carrots, spinach, cabbage, egg-yolk, cod liver oil and the fat of glandular organs. A person needs about 1/20 grain of Vitamin A daily. The diseases caused by deficiency of Vitamin A are (*a*) night blindness (*b*) retarded growth (*c*) atrophy of the glands (*d*) sterility and (*e*) Xerophthalmia (an inflammation of the eye-lids and eye-balls). Milk and milk products should therefore be used in abundance. They are termed 'protective foods' because they supply the required nutrition—Vitamin A—to the body.

(2) The water-soluble Vitamin B consists of several independent factors such as:

(*a*) B_1 or Vitamin F. This is the anti-neuritic factor, the absence of which produces a disease called beri-beri, an often fatal, wasting disease, accompanied by nerve inflammation and heart failure. Vitamin B_1 is important for the utilization of sugar in the body. Some common diseases of metabolism as well as some forms of nerve inflammation especially in pregnancy are attributed to its deficiency. Vitamin B_1 is found mainly in yeast, wheat germ, yeast extract, bran middlings, peanuts, dried peas, beans, lentils, nuts, liver, whole wheat, rye, maize, oatmeal, whole barley, whole rice (brown), potatoes, cabbage, oranges, tomatoes etc.



SPATHE OF MOSAE (Plantain)
A South Indian food which is full of vitamin C.

(*b*) B_2 or G, is an anti-pellagric factor, sometimes called Vitamin P-P. Its important source is egg-yolk.

(*c*) B_3 and B_5 are chicken anti-pellagra factors.

(*d*) B_4 —a dog black tongue factor, a pigeon heart block factor and growth factor for micro-organisms.

(*e*) B_6 appears, together with other factors, to produce a hormone which is necessary for the building up of the hæmoglobin. Its deficiency may lead to anæmia.

(3) Vitamin C: Known chemically as Ascorbic acid is a derivative of sugar and is to be found in almost all fresh fruits and vegetables. The diseases caused by the lack of this

Vitamin are: (*a*) spongy bleeding gums (*b*) hæmorrhage tendencies (*c*) sore and swollen joints (*d*) anæmia (*e*) scurvy (*f*) susceptibility to dental caries and (*g*) separation of the growing ends of the bones in infants. The chief sources of Vitamin C are oranges, lemons, grape fruit, onions, liver, carrots (young), pine-apple, potatoes, milk, apples and bananas. This Vitamin is susceptible to heat and air, in which it is easily destroyed. It should be borne in mind that the necessity for Vitamin C arises in epidemic periods. Therefore, when colds and 'flu' are prevalent, much citrus fruits (oranges, grape fruits, etc.), which carry a high amount of Vitamin C should be taken.

(4) Vitamin D: Deficiency of this Vitamin is responsible for rickets, improper dental formation, irritability, soft bones, pigeon chest, muscular weakness, protruding abdomen, bowed legs, square head, curvature of the spine, knock knees.

Milk, cod liver oil, salmon, cod liver, egg-yolk, butter fat, herring, liver, cream, butter, mutton-fat, beef-fat, liver yeast and sun-shine are the chief sources of this Vitamin.

Ordinary dairy produce (milk, butter and cheese) contains a sufficiency of Vitamin D and Calcium and Phosphorous salts and this with sun-shine must help in overcoming the deficiency disease caused by this Vitamin.

(5) Vitamin E: Through its deficiency, sterility is caused. It is contained in wheat embryo, wheat germ oil, rice oil, lettuce, green leaves, palm oil, cotton-seed oil and olive oil.

(6) Vitamin H: This is claimed to exist in raw liver which is needed by young trout for normal growth.

(7) Vitamin K: This is a recent discovery. The deficiency of this Vitamin causes certain skin diseases and alopecia. Its sources are fish, hog liver, tomatoes, cabbage and spinach.

(8) Vitamin P: This is the most recent discovery. It is said to exist in fruits and is the flavon factor, citrin.

We have, in these pages, tried to bring the knowledge of Vitamins up-to-date. We do not know how many more Vitamins will be discovered in the future and whether the few remaining letters of the English alphabet will at all suffice to name them. There seems to be at the present day a craving for Vitamins. People have become almost Vitamin-crazy and in their attempts to stuff their stomachs with Vitamins, they forget the substance and catch hold of the shadow. We therefore commend the following wholesome advice of Dr. HARRY BENJAMIN in "Health for All" (1931) to our readers: "It is best, therefore, when thinking about or when coming in contact with food problems *not to worry about either calories or Vitamins* but to realise that *real food*, the food the body requires. The food, Nature intended us to eat is the natural unspoilt products of the animal and vegetable kingdoms complete with all their mineral elements, and not subjected to the demineralizing, debasing and devitalising influences of either modern commerce or haphazard wasteful cookery".

Reference:

"Health for All", Aug. '40.

Food Value of Cane Sugar and Gurh (Jaggery)

Three different samples of sugar, two different samples of jaggery (gurh) manufactured from sugar cane and six samples of jaggery manufactured from palm juice were analysed as to their food value. It was found that samples of jaggery were usually richer in protective or essential food principles than those of sugar inspite of the fact that weight per weight the latter costs more money.—*The Patna Journal of Medicine, Oct. '40.*

Milk and Tuberculosis

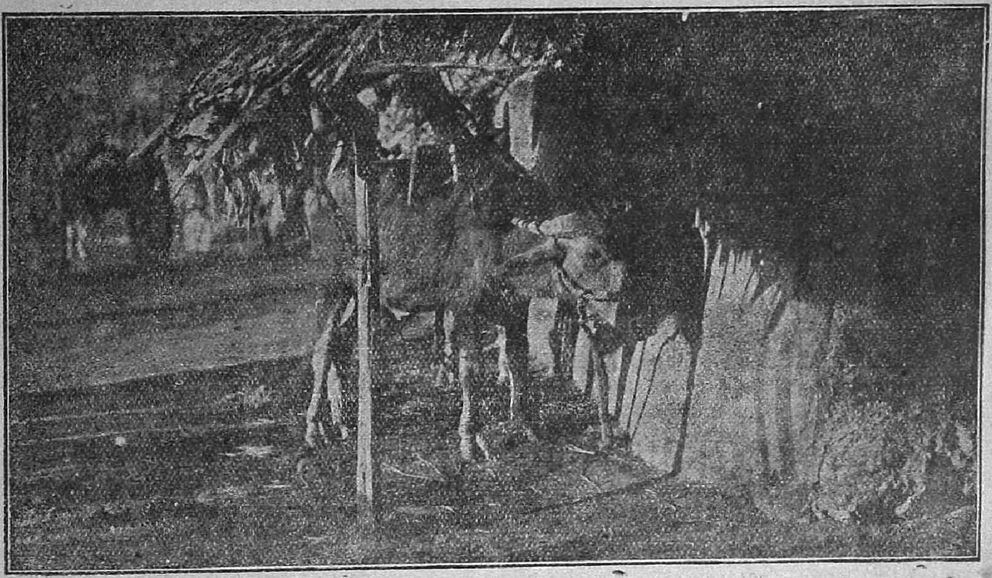
By Khagendra Nath Chatterjee M.B., I.M.S. (Retd.)
Chinsura P. O, Hooghly Dt., Bengal.

As tuberculosis has been spreading very rapidly, within the course of a few years in India, attacking particularly little children and youths of the soil, it has become incumbent on the State and the Public Health Bodies to find out all the sources of infection, in order to eradicate the disease, in the shortest time possible. It has been known from good old days, that cow's milk is a potent source of infection to the young children, who live on such milk ; because, of all domestic animals, the cow is most susceptible to tubercular infection. Hence the animal that suffers from tuberculosis and particularly whose udder has been attacked with tubercular disease, will be a sure medium for the propagation of the tubercular germ to the young children, who drink such milk. The result will be that such children will either fall victims to the disease early, or the infection will remain dormant in the system for good many years, when the children remain apparently free from the disease, but will flare up any time, when the system gives way, after some heavy and prolonged illness, such as pneumonia, or typhoid fever. It is commonly noticed that many children suffer from enlarged glands in the neck, and other parts of the body, which condition is generally termed scrofulosis. These cases are mostly due to tubercular infection derived from milk of tubercular cows. These glands of the body are the first line of defence, the disease becomes localised and arrested there unless the body resistance fails, when these glands themselves become inflamed and become abscesses themselves or the infection is carried to other parts of the body, such as the bones and their joints, or affects the lungs, when the disease is termed as consumption, the incidence of which is rapidly rising in the country at the present time. This terrible affection is causing painful suffering and a heavy loss of life, unless the disease is recognised early and treated on scientific lines.

While tubercular cows are dangerous–being a source of infection of the disease, healthy cows, free from any disease are again, very useful in preventing the disease by supplying nourishment to the human body, particularly the young and the old, the sick and the convalescent, who depend mainly on this food for the support of their life and strength. Tubercular disease is said to be caused and helped by a deficiency of the Vitamins A and D in the diet. These Vitamins are present plentifully in milk, and therefore, a supply of healthy milk, uninfected and un-adulterated, is not only a life-giving substance to young and old people, but at the same time helps in warding off diseases like tuberculosis—nay it indirectly helps the system in combating the disease, by increasing nourishment and therefore, increasing the body resistance.

Is it not very painful to think that the milk supply of Indian towns and villages is being neglected, at a time when the country is being ravaged by this fearful disease, from one end to the other? Who will deny, that the number of milch cows are rapidly decreasing, and the health of the existing animals are deteriorating every day? It is a woeful sight to look at the bony animals grazing on the fields of this country. The reason is obvious. The cows do not get

sufficient food for their own nourishment, there is dearth of fodder, and dearth of sufficient pasture grounds. The professional milk-men, and dairy firms, squeeze out all the milk that they can extract from the udder of these worn out animals, caring little for their health or shelter or grazing plots. It is up to the Governments and the Municipalities, the District and Village Boards of Health, to carry on a systematic inspection of all cows, particularly those of the professional men, who supply milk to the market, by pounds for the restriction of cattles, without providing adequate pasture lands for the grazing of these animals, within their area. This system is pernicious, and should not be allowed to exist; for, if the animals are restricted for 24 hours in their shed, and are not allowed to graze in the open field under the sun, their health is liable to decay and they will be infected with diseases of tuberculous nature. Therefore, a regular examination of all infected and diseased cows by experts, is as necessary, as attempts to



Cow is one of the chief sources of tubercular infection ; So beware of infected cows and their milk

expert veterinary surgeons, to find out the tubercular and diseased animals, and condemn them for milking. There should be started country-wide asylums, like the Pinjrapoles of the noble Jains, for the isolation and care of these poor animals. But a mere propaganda of this nature alone, will not solve the problem; a simultaneous provision of pasture lands for the grazing of these cows, should also be assured in all villages and towns as well. It is deplorable, that there are municipalities in India, which maintain promote the health of the animals, by the provision of green pastures in the open air by all Municipalities and District Boards, are necessary for the welfare of the people of the country to save them from the scourge of tuberculosis, which is taking a heavy toll in the land now-a-days. The supply of healthy and unadulterated milk, in plenty, from the udders of healthy milch cows in India, is what is necessary for the welfare of her children, and not the bottled and tinned milks, imported from foreign lands. The

report of the Royal Commission in England, regarding tubercular infection from milch cows will be of interest here.

It runs as follows :—

"A very considerable amount of disease and loss of life especially among the young must be attributed to the consumption of cow's milk containing tubercle bacilli. The presence of tubercle bacilli in cow's milk can be detected.........if proper means be adopted, and such milk ought never to be used as food. There is far less difficulty in recognising clinically that a cow is distinctly suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to form part of human food, and indeed ought not to be used as food at all."

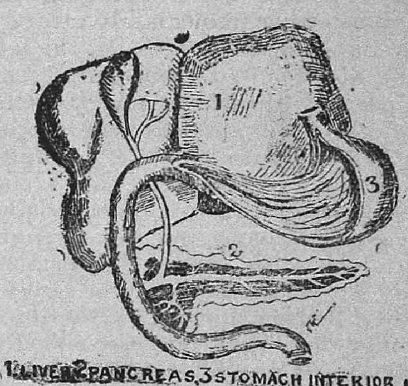
Enlargement of Liver In Children

By DR. N. RAMA RAO, L.M.P.,
Physician and Surgeon, Gollapalli.

THIS disease is very much dreaded by the people. It also seems to be common in the Madras and other Presidencies. Brahmins seem to be more affected according to statistics. It is comparatively less common in Western countries. The cause and specific treatment have not so far been discovered, though many researches are being made by the Allopathic doctors. But, in the absence of a definite cause, very many factors are held to be responsible for the onset of the disease, some knowledge of which, is essential for the parents so that it may serve as a means of preventing the malady.

Causes.—The one factor that is as much responsible for this disease as for any other disease is the maintenance of vitality of the child. Vitality means the power of resistance to any ailments. This vitality is either inherited or can be improved by good nourishment, tonics, etc. This inherited vitality depends entirely upon the health of the parents in general and specially upon how the pregnant lady is looked after regarding her diet, tonics, treatment in time of any ailment that can possibly affect her.

Diet.—Irregular dieting of the children is the main cause. The child should be maintained on nourishing diet of good quality with plenty of Vitamins, major part of which should be milk, reasonably diluted according to age. The quantity should be adjusted, as over-feeding results in liver disorder. The tining of feeds should be regular. The best of all feeds for babies, everyone knows, is mother's milk. Most of the mothers now lack in proper secretion of milk, and hence the children are fed mostly on patent



DIGESTIVE ORGANS.

stuffs, tinned foods, etc. The next best is cow's milk or goat's milk, in case the parents cannot afford to maintain a nurse. Last come these tinned foods. Irregular dieting and heavy foods lead to inflamed condition of the stomach and bowels and this in turn inflames the biliary passages and the liver whose secretion is impeded resulting in enlargement with or without Jaundice. Heavy and rich foods include high carbohydrates and fats which cause much strain on the liver and as the latter cannot cope with the heavy ingestion, the disease starts.

Other causes for this enlargement which may not be out of place here to mention, are chronic malaria, kala-azar, rickets and syphilis of the parents as well as rickets affecting the children. Liver and spleen are both enlarged in malaria, rickets and kala-azar. Now-a-days, hereditary syphilis plays an important role in the occurrence of this liver disease.

Signs and Symptoms.—The child manifests some gastro-intestinal disorder. There may be vomiting which may be either immediately after dieting or sometime later. In the latter case, the vomit contains curdled milk or partially digested feed. Diarrhœa may also result and this may alternate with constipation. Atonic condition of the bowels starts on this account and is manifested by a distended abdomen. The colour and consistency of the stools also change. The motion may be white, coloured or greenish with a bad smell which causes absorption of the toxins into the blood circulation as a result of which fever of an irregular type runs for a long time. There may be mucus coated over the stools and the child frequently suffers from abdominal pain and spends sleepless nights causing much anxiety to the parents. One peculiar feature which invariably misleads the parents and often prevents them from consulting a doctor is that the appetite of the child is well maintained and it may be even voracious. Generally, the parents are well satisfied with it. The child gradually loses flesh and emaciates with the typical appearance (*i.e.*), a distended and enlarged abdomen with thin extremities. The following are the pathological changes that take place in the digestive organs. The bowels lose their tonicity and are chronically inflamed and this extends to the biliary ducts and liver. The latter is not able to secrete its bile into the bowels as the ducts are closed by thickening and this bile is directly absorbed into the circulation resulting in what is called jaundice. The eyes become yellow, the urine is high-coloured and stains fabrics and there is fever too. The stools are clay-colourêd or white owing to lack of bile in them, and foul smell emanates consequently. Sometimes, this liver disorder progresses without the onset of jaundice at all. Whatever it be, the liver enlargement impedes the normal blood flow through it as the lungs become congested and the heart affected. The legs and feet are swollen and fluid may accumulate in the abdomen (Ascites) and this in turn, embarrasses the heart until it slowly fails. The urine is suppressed or scanty and contains much albumen. It is rather very difficult to effect a break to this vicious circle and death is invariably the rule, when matters are allowed to take their course.

Treatment.—Prevention is better than cure. The child should be well nourished, but should not be over-fed. The nourishment should be timely and of good quality. See that the bowels move regularly and the colour of motion is normal and that the child relishes and digests its normal diet. Any deviation from these should be taken notice of and immediately rectified. Most of the mothers are in the habit of administering Castor oil every day, twice for some months after birth and then once for a long period, and then gradually once in two days until they completely stop it at

a particular age of the baby. Occasionally, they are accustomed to the use of Calomel and this is done most indiscriminately without any doctor's advice as regards the dose and the time when it is actually needed. This is called 'Rasam' and is sold in any bazaar. I have seen some children are given this 'Rasam' in another form and that is Mercury Perchloride which is a deadly poison. In any acute or chronic diseases of children like protracted fevers, dysentery, etc., when the disease is thought to be incurable, the quack doctors are in the habit of administering one preparation of Mercury which they call 'Bhandanam'. This is said to be the most potent of all drugs and their belief is that with it, the matters should mend or end. Castor oil and Calomel are meant for occasional use only. Their frequent use is likely to irritate the bowels and cause enteritis, and lead to liver trouble. Further, of late, research workers have proved that the Castor oils that are sold in bazaars, or home made, are definitely the causative agents for the liver disease. There is a definite process of preparing the Castor oil which is not observed in most of the companies. The only reliable preparation is that supplied to Government Hospitals. Calomel also is a dangerous drug. Simply because the child is constipated frequently, Calomel is given once in a few days mixed with Castor oil. Its frequent use definitely leads to liver disease, because the liver also is stimulated often along with the intestines.

As regards the diet, the best of all is the mother's milk. Many mothers lack in milk secretion sufficient for their children and so feed the latter on tinned foods, etc. The next best to mother's milk is to employ a nurse but the average Indian family may not afford to maintain her. Then comes the cow's milk or goat's milk which is available everywhere. The proportion of milk and water requires scrutiny and should be altered according to the age of the baby. Even buffaloe's milk will do, provided it is sufficiently diluted. If none of these could be had, the last recourse is to feed the children on tinned foods. One can generally have a good selection of these proprietary foods by consulting a doctor.

Another important thing worth mentioning in this connection is that the young children are very sensitive to changes in foods. Suppose cow's milk is being given from the beginning and now it is replaced by some other food like Glaxo or Horlick's, this kind of change tells upon the health of the baby and may be manifest in the form of some digestive disorder like vomiting, diarrhœa or constipation or distension of abdomen and may cause some anxiety. This has to be avoided as far as possible.

It is very difficult for any parent to detect this disease in the early stages. So, none of these children is brought to doctors quite early when something good may be done. Invariably, they consult doctors when the disease has far advanced and nothing could be done at that stage. The safest procedure would therefore be to get the children examined by doctors from time to time. The parents themselves, especially the mother, should be instructed to keep a vigilant watch over any change in the digestive system and if the same happens to persist for over a couple of days, the doctor should be consulted. In places where doctor is not within easy reach, any intelligent member of the family may be trained to feel the liver, and if there be any hard feel to the fingers, no time should be lost in putting the child under a doctor's care.

The following are the common signs and symptoms, the appearance of which should be taken notice of by the parents, and the liver disorder likely to have commenced, must be suspected.

1. Bowels frequently constipated

and unless some laxatives like Castor oil with or without Calomel is given, bowels would not move.

2. Constipation may be alternating with diarrhœa.

3. Persistent foul smell of the stools should receive the attention of parents.

4. There may not be any colicky pain, yet the motion may be combined with mucus or the outer surface may be shining and smooth, or the same may be expelled in small bits with short intervals in between, giving rise to noise sometimes. The stools may have a beaded appearance of a hard nature.

5. Yellow colour of the stools is normal. Any other colour denotes disease. They may be black, or white or grey-coloured or sometimes green-coloured. All these colours may alternate. White, black and grey colours denote lack of bile and this, when neglected, is a sure pathway for liver disease.

6. Normal abdomen should not be above the level of chestwall: persistent distension and pot-belliedness must be suspected. This distension may not always be due to liver enlargement. But atonic condition of the bowels causes distension. This atonicity again leads to imperfect digestion and so on to liver disease.

7. Combined with any of the above, the features of the child also show changes. The baby is less active, lies idle, puts on a dull complexion which may be sallow and eyes become muddy. The plumpiness gradually fades,and the child begins to emaciate. The hands and legs become thin while the abdomen increases in size with weak and prominent ribs.

8. Frequent attacks of jaundice should be taken as a warning sign. Even a single attack may set up the disease. There may be fever, the eyes become yellow, and the urine very high coloured and stains clothes. This jaundice is always catarrhal and is generally treated by quacks. It is a pity that this complaint is taken very lightly and treated by manthrams and by putting round the neck of the child a thread to which several short pieces of tender sticks of a particular plant are tied. This plant is believed to be a cure for jaundice. But, thanks to this quackery, that is combined with restricted diet which is an essential item of any proper treatment, because there is catarrhal inflammatin of the bowels and liver and its appendages. As a matter of fact, whether there be any specific curative property in the above mentioned thread or not, the diet restriction plays an important role in getting a cure. Inadequate treatment leads to subacute inflammation of liver and finally chronicity results and the liver prominently stands enlarged.

9. Frequent attacks of dysentery with pain of a colicky nature must be looked upon with suspicion.

10. Attacks of vomiting must receive attention. The appetite which has been normal hitherto, now becomes increased and the parents generally feel glad to note the increased degree of appetite. This naturally leads to over-feeding which again may mislead the parents. But this is a sign of liver disease.

As regards the curative side of the treatment, the parents need not be much worried with all the details of treatment,as it is the domain of doctors and not of laymen to whom alone this article is intended. But in the absence of a specific treatment,even doctors are obliged to suggestthe famous Jemmy Venkataramanayya's liver cure. But it is always dangerous, both for the patient and the doctor to prescribe a proprietary medicine whose ingredients are not known. In very many instances this medicine has caused nephritis (inflammation of kidneys) and children passed bloody urine and bloody stools and ultimately died. But, no doubt, some at the same time claim

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definite cures. Anyhow, it is not safe for doctors to recommend such secret patents whose ingredients are not given. Another, by name 'Liverites' has come to the market. I do not know much about it and so cannot give any definite opinion about this patent. Let the parents try to prevent, rather than worry themselves about the cure of the disease which is not certain. But whatever be the treatment adopted, one advice to parents is that rice diet definitely makes the disease worse and so it must be stopped and immediately the child should be placed on milk and barley water which helps a good deal in arresting the further progress of the malady.

Presidency Health and Mysore Activity

BY P. P. SARADHY, B.A., B.L., *Sub-Judge (Retd.), Royapettah.*

ADMINISTRATION reports make periodical appearances and are lost in oblivion. But the condition of public health remains substantially the same for ever. Nothing in the world could be of more vital interest than Health and nothing is more a duty of high responsibility than maintenance of Public Health. Health conscience must be aroused even in the infant period and gradually, it must be developed throughout the individual's life. It is a matter for education (practical and theoretical) for family house keeping and every adult who respects the self and values life properly. The Hindu traditional prayer is for "*Tejas*", perfect, unbroken, healthy personality which, in the stage of ordered methodical self-conscious progress, beams with spirituality.

If we peruse the Administration Report for 1939 nobody can remain unmoved and every one is bound to feel restless till he creates a machinery of active, imaginative, sympathetic band of medicoes infused with missionary spirit for improvement of Public Health.

Total mortality in the year is 25.26, as against 23.46 in 1938 and against an average of 24.12. for 5 years 1933-1938.

This is abominable.

Infantile mortality, urban and rural, is respectively 179.69 and 175.08 per thousand. Can anybody tolerate this condition ? Mortality from small-pox showed an increase from 2273 in 1938, to 3120 in 1939, the number of deaths from it in Chingleput district alone being as high as 838. Even mortality from fevers increased by one per cent, 28 against 27.

The recording of cases under "other causes" not defined, covers 52 per cent of total mortality and that shows how slovenly are those responsible for it. That shows more than fifty per cent. of cases escape the attention of those who are interested in the eradication of disease.

It is ironical to find maternal mortality rate per 1000 births in cases where skilled aid was rendered *was 12.13 in urban* and *8.63 in rural areas*. This is despite the fact that the percentage of cases that received skilled aid at child-births in rural and urban areas were 5.43 and 38.77 respectively. It is surely a matter for profound regret and disappointment that despite increase of skilled aid available in urban areas the maternal mortality was higher than in the rural areas where skilled aid was to less number. There is no use of burking facts and animadvert on the people's apathy or fearlessness in the face of small-pox affliction. If it is due to ignorance, no stone should be left unturned in spreading true knowledge or in convincing people of the efficacy of vaccination "for

protection". It is clear from the above figures that the Government should not stint in opening more hospitals and making medicine cheaper, in starting more maternity and welfare centres where the lady doctor or the midwife is alert, active and enthusiastic to do aid and not pose for a *sphynx show*, in engaging hundreds of qualified doctors to take charge of the hospitals on proper remuneration, in establishing regional centres in urban and rural areas. The principle being that there should be an hospital for every area of 5,000 population, that, if, necessary co-operative medical institutions should be established by active support of the Government.

We find in Mysore, a happy contrast:

In the Madras Presidency, we have one medical institution for every 126 square miles; In Bombay, one for every 180 square miles; In Bengal, one for every 540 square miles; In U.P., one for every 178 square miles; In Mysore, one for every 94 square miles.

By way of population, the figures are equally startling: One institution for 41,217 people in the Madras Presidency; 41,940 people in Bombay; 34,585 people in Bengal; 81,087 people, in U.P.; 20,653 people in Mysore.

In terms of money: Mysore spent per capita Rs. 0-4-6; Madras 0-2-6; Bombay 0-4-9; Bengal 0-2-1; U.P. 0-1-3.

We must hang our heads down in shame! "Spiritual India" "Philosophic India" is all bunkum, unless India has virile strong population. There can be no doubt that medical aid is utterly wanting in quality, number and accessibility and facility. The under-privileged class do clamour for help and most of them are denied it and some get niggardly help and many are baffled by cost. The labour classes are the worst sufferers. *Look at America.*

We find it reported: "Fifteen million men and women who work for a living get free medical examination, free medical care for injuries and illness—at the expense of their employers. 1,500 doctors looked after 15,000,000 workers. Still, we find still-birth percentage is greater among factory workers. Infant mortality is higher; abortion higher.

The remedies recommended are: pre-employment medical examination, frequent periodic check up, prohibition of female employment involving exposure to lead and benjol, proper seating with back rests, no work for 3 months before and after child-birth, no night work, quiet rest rooms, adequate nursing and medical care, etc.

Surgeon-General THOMAS PARRAN says: "The under privileged third of our population, when seriously ill, needs help from Tax funds. The health of the people is quite properly the concern of Government."

JOHN P. PETERS wants that the Federal Government should subsidise medical schools, hospitals, research institutions and pay the hospital and doctors' bills of the poor. KINGSLY ROBERTS explained a movement for Co-operative medicine under which individuals and families pay dues to an organisation which hires doctors to look after them.

Some or all of these specific recommendations are quite possible in India. Will the medical profession, the publicists and the Government bestir themselves or shall we suffer the population to degenerate and die in larger numbers?

That Annual Check-up

"It is my firm belief that if the diseases of the gastro-intestinal tract, which includes the lips, tongue, tooth, mouth, stomach and bowels are recognized in their early stage, their progress may be curtailed, adequate treatment advised and many deaths might be prevented—*Dr. A. H. Aarn in Hygiea.*

ORAL HYGIENE

BY DR. M. K. RAHMAN.
M. O., Nasrinagar Dispensary. Tippera, Bengal.

Description.—Hygiene of the mouth is a part of personal hygiene and includes some personal factors conducive to the good health of individuals. In the hygienic sense, the mouth extends from the lips to the throat *i.e.* the upper part of the digestive canal where there is voluntary control. It has indirect relations with nasal cavities and, to a less extent, with the eyes through the lacrimal ducts and still less, with the middle ear through the eustachian tubes.

Classification.—The oral hygiene is grouped into two classes. (1) Care of the mouth and its accessories. (2) Proper use of the parts of the mouth.

Alkalinity.—The mouth is always kept lubricated by the outflow of secretions from the salivary and buccal glands. These secretions are alkaline in reaction and this alkali-equilibrium is the normal phenomenon of the buccal cavity.

Teeth and Gums.—Cleanliness of the mouth is of special importance in the tropics. Pyorrhœa Alveolaris is a common affection in hot countries like India ; it is the result of neglect of oral hygiene. The mouth should be kept perfectly clean and the teeth regularly attended to. The pious Muslims consider it a sacred work to clean the teeth thoroughly well at least five times in 24 hours, *i.e.* before every obligatory prayer of a Muslim, with the help of a stick (preferably freshly cut) having soft tufts on either ends called meswak or Dantan.

TOMES is of opinion that the teeth should be thoroughly cleaned at least twice a day with a brush. If the teeth are inclined to decay between or if there are fillings in between them, tooth pick or some twisted silk should be carefully passed through, so as to clean the surface thoroughly. Any place where the food habitually lodges and wherefrom it is not promptly removed, is quite sure to decay sooner or later. The results of decomposition end in the production of some organic acids ; bacillus acidophilas odontoliticus and some such identical bacilli—normal inhabitants of the gum—get a suitable nidus to flourish in and ultimately take the upper hand.

Children often suffer from caries possibly due to this acid-forming bacteria.

In the opinion of the writer, it is social to clean the mouth in the morning but it is hygienic to clean after each meal, specially at bed time.

Night is the period of rest. The acid bacilli having a suitable medium to develop on account of food particles being decomposed in between the teeth, progressively act in the decay of the gums, being undisturbed by the tongue and the cheeks because of sleep. So, it is necessary to get the mouth thoroughly cleaned at bed time.

A tooth will rarely decay on fully exposed surface. The most scrupulous cleanliness is the best of all preservatives for the teeth. The more delicate the teeth the greater the need for frequent and thorough cleaning. Deposits of tartar should be removed by scaling or any other instrument ; else, the roots will become exposed and make the teeth loose.

Tooth-cleaning Agents.—Dantan is better than brush or any other tooth paste or tooth powder. By nature, 'Dantan' is slightly medicated, it is astringent having some bitter and aromatic taste and some salts and vitamins. Of course, it takes longer time to clean the teeth with the help

of 'Dantan'. So, it is difficult for those who have little time to spare for their own health. These very persons may not hesitate to spend on hours together listening to radios. Now, it is for them to judge whether they can spare half an hour or so for health—for their own comfort. Like the body, the gums also require exercise; to clean the gums with tooth-stick (Dantan) is a very good exercise for the gums and that helps in the formation of healthy gums and healthy gums are in healthy bodies.

Some beginners may experience bleeding from the gums while using 'Dantan'; this is due to sponginess of the gums. The beginners should therefore use a very soft stick (Dantan) and should have confidence in it. After a few days, they will find that sponginess is gone and the gums have become healthier and they are feeling cheerful. The use of the tooth-stick (Dantan) helps to clean the mouth indirectly—it increases the outflow of buccal secretions and thus the mouth is washed with a natural protective alkaline lotion in the form of saliva, the qualities derived from the stick (Dantan) being slowly mixed with it.

Considering all these advantages, the 'Dantan' is much superior to the brush. The powder and the pastes meant for the teeth are often over-medicated and are more suitable to the diseased gums than to the healthy ones for everyday use. Besides, a poor country like India cannot afford to use these ingredients daily unless there is some particular ailment of the gums. When most of the suffering Indians die untreated, how can they spend a few rupees or so in the year for their gums?

Treatment.—Hypertrophied gums should be excised. Extremely loose teeth and all cases of carious teeth should be removed. Some cases of deformed teeth also require extraction. Tartars should be scaled off; but frequent scaling is injurious to the enamel of the tooth. After these instrumentations, there is some sort of ulcer in the gums. Besides the use of 'Dantan' the writer experienced that the following pigment is of much use for such ulcers.

℞	Tr. Aconite	...	ʒ ii
	Tr. Iodine (Rect)	...	ʒ ii
	Thymolis	...	gr. iv.

Mft. Pigment, to apply to ulcers of the gums once or twice daily.

The following alkaline astringent gargle is also very useful.

Tr. Myrrh	...	ʒ iv
Borax	...	ʒ ip.
Aqua Camphor	...	1 Pint.

Mft. Gargle.

To be used after every principal meal and at bed time.

Tongue.—Should be cleaned with a tongue-cleaner; most people use the teeth of the upper jaw as the tongue cleaner and wash the mouth with plain water; that is sufficient unless there is some sort of ailment.

The minor ailments of the tongue are generally from injuries—unmindful biting or from caries or deformed tooth and from contiguous infections from buccal mucous membranes if there is stomatitis.

Treatment.—Ordinary ulcers of tongue easily heal up when Lotio. Arg. Nitras 4% is touched for 2 or 3 days.

Buccal M. M.—It requires no special attention. If the throat and the gums are alright, simple gargle is sufficient to clean it. If there be any inflammation—either from irritation or from neighbouring infection — stomatitis may supervene. It is of different types but catarrhal form is common. Only some mild antiseptic gargle is sufficient to heal it, provided the cause is attended to.

Throat, Tonsils and Eustachian Tubes.—Occasional washing of the throat with hypertonic saline is a good habit, because, the throat is the habitat of a number of micro-organisms and this washing reduces the number to a great extent. Tonsillitis and pharyngitis are common ailments in

this country. They should be regularly treated. In cases of chronicity, the part should be cauterized.

The pharyngeal micro-organisms swim about in the oral cavity and that is the reason that Diphtheriods and Pneumococci are often found in the mouth.

The throat is the gateway for the respiratory and digestive passages. have easy communications with the throat and the mouth. Therefore, to keep the mouth free from the virulence of the nasal micro-organisms, it is desirable that the nose also should be cared for. The deflected septum is a wagon of troubles for the nose and the air passages. It ought to be treated in early life. Not to speak of the children, even the adults

Mouth is the gateway for all disease germs to enter. Hence keep your mouths always clean and shut.

Any infection in the throat is bound to sweep down the passages. The tonsils are the guards on either side. In the observations of the writer, it is noticed that the tonsils of most of the people are either atrophied or to some extent inflamed. This is the sign that the protective mechanism is not working well.

Nasal Cavities and Eye.—The infection of the eye may easily descend into the nasal cavities through the lacrimal ducts.

The contents of the nasal cavities do not care for natural abnormalities and impediments unless they are compelled to attend to them.

Therefore,it is necessary that the health of the boys and girls should be thoroughly examined in young age in school life and recorded, and re-examined again when they are about to enter into college life or any other responsible life, the persisting defects being remedied. Some cases of foul smell of the mouth and nose have been cured by drops of mercurochrome 1% solution on the conjunctiva.

Of course, the nasal and throat discharges were seen besmeared red with traces of mercurochrome.

Habit plays an important part in the preservation of health. It is easily formed, and develops by practice, ultimately it becomes part and parcel of nature. Thus, habit is second nature. The influence of habit in the formation of the character of the individuals is known to all but its influence on the physical and mental conditions of children is more important, because the child of to-day will be the parent of to-morrow.

So, in the interest of the nation and the country, the health of the children should be well attended to and it would be simple if the teachers and guardians would take some interest in it.

Proper use of the parts of the mouth.—Just as the machineries work and remain lubricated, and the human bodies which are in working order develop more in the parts that are in frequent use, so also is the case with the appendices of the mouth. The habit of chewing harder food materials or chewing for longer time makes the gums harder and stronger and the corresponding muscles more active.

1. *Masticate well* :—There is a mythological proverb that 32 teeth means that every mouthful of food requires 32 bitings or grindings—that is the sign of healthy eating.

2. Do not swallow a mouthful unless it swallows itself.

3. Avoid reading during meals. The strict Muslims will not talk about and will not be unmindful while dining, because to be inattentive in meal-time is construed by them as being ungrateful to the Providence who provides the provision ; certainly it is injurious to health because the psychical organs do not and cannot work while the eater is inattentive.

4. *Psychology* :—" A healthy mind is in a healthy body." There cannot be any healthy body without a healthy mouth and there cannot be any healthy mouth without healthy gums. The influence of the mind over the body is very great. Gymnasts are carrying or bearing the burdens of much higher weights than what a person with a strongly-built body can. This is not the mere strength of body, but it is the strength of the mind and the body together.

A postman may walk ten to fifteen miles a day, but his leg muscles are not comparatively strong, because he is not mindful of his walking while he walks, probably he keeps in his mind only the names and addresses of persons with whom he may have business.

So, while masticating, everybody should think that he is doing so not only because he cannot swallow without mastication but he is masticating (1) for digestion in the mouth and (2) for exercise of the gums. This is an important indication in oral hygiene to which the writer draws the attention of the readers.

Teaching Dental Health to High School Pupils

The importance of the problem of dental health demands increasing attention from school authorities, even though it is taken for granted that the basic attack on the problem should begin with the pre-natal and pre-school periods.

It is now generally recognized that the problem cannot be met unless continuous attention is given to the teeth of school children, especially as they are passing through the adolescent age, since children at this age are particularly susceptible to dental caries.

In a study made in Massachusetts on conditions found in the mouths of 2,554 children, ranging in age from 2 to 15, at age 15, there were found only 12 per cent of the lower six-year molars in perfect condition ; 28 per cent. had been extracted because they were abscessed. Therefore, the systematic dental care of the younger child alone is not adequate to solve the problem.

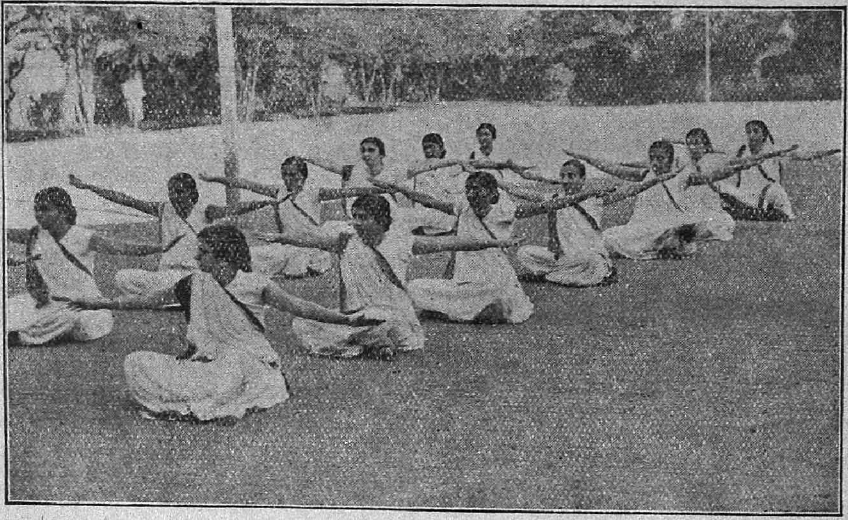
With the addition of a dentist to the staff of the division of child hygiene of the Massachusetts Department of Public Health, a more concerted effort has been made to attack the entire problem.—*Hygiea.*

PHYSICAL TRAINING For HEALTH and LONG LIFE

BY

KHAGENDRANATH DE, *Physical Instructor, Calcutta.*

I BELIEVE, I am not mistaking by saying that health first of all means endurance and ability to side track diseases. It naturally indicates functional and organic vigour. One cannot be healthy unless the organs of his body be sufficiently strong and doing their duties harmoniously and satisfactorily. To live a long life, perfect health is required. Health does not mean only bodily structure but also mental structure. A 'healthy' man should have speed, agility, endurance, strong memory, concentration of mind and corporate spirit. Now, if anybody questions me, can these assets be made through physical training, my reply will unhesitatingly be, 'yes'. I know, that by physical training both the mind and the body become strong and the inner and outer developments in a man become harmonious. It is a common thing that health is activity and activity is life and, therefore, a healthy life must have activity. The body must be developed, strengthened and beautified, if the mind is to conform to all that we consider ennobling and inspiring.



Picture shows—The girls of the Vanita Vishram Training College, Bombay, performing a drill.

It is an axiomatic truth that we are all controlled by habits and grow in environments that create them. We are invoked into nobler examples of humanity or are sunk into insignificance and degradation depending entirely on the habits we form. Apparently, we long for the required culture for both the body and the mind, based on method and system. While we develop our mind, we should not leave aside our body in which the mind resides throughout life, as the latter cannot conform to all that we think ennobling and inspiring,

unless the body is developed and strengthened.

From the foregoing it may be concluded that health has threefold blessings *viz* the development of the body, mind and spirit. In the human make-up, the physical and mental influences are in such intimate association, and act and interact in the individual to such an extent, that it is foolish perhaps to make an attempt to separate or waste them.

Physical training, taken as a hobby has a marvellous effect. Any occupation, from which one derives enjoyment will readily develop into a hobby. Most people will plead lack of time but I do not support it. The trouble generally originates in lack of ambition. In the beginning, a little determination is all that is needed. The average individuals, however, have their early mornings and evenings to themselves. The man or woman who works more than nine hours a day, is a rare exception. Majority of people with tenacity of purpose and determination may have the time at their disposal by curtailing useless or harmful habits. None is such a slave to his work that he cannot utilize at least a few minutes on getting up or before retiring to exercise in his room.

One can rest assured that if necessary efforts are made, one can bring a revolution in one's physical and mental power. It should be remembered that the attainment of vital vigour is really beyond price. Let us not, therefore, be satisfied with mere existence which may terminate with natural death. Life is worth having, when it is imbued with life in every sense of the word. The building up of one's physical assets should be recognised as an imperative duty.

Have the joyous physical-cultured life and be the man true to the wish of God and inner significance of His creation. Devote at least fifteen minutes a day to conscious physical exercise and come into reasonable contact with the elements. Exercise your will force and resolve to be perfectly clean in body and mind and the world will appear more wonderful to you than it has ever been before. Have regular exercise for one month and you will feel the thrill of a spirit of joy and energy to keep you fully alive.

In my previous articles, I have already said that physical training can be practised in all ages and if done regularly and systematically, it would keep the body fit to cope with any occupation in life. Average people complain of illness almost all the 365 days of the year and the cause of this is not far to seek. There are many systems of physical culture. Before I proceed further, I would remind you that if you have worked all day at some sort of mechanical work that requires little effort, your exercises should be of the kind to use the brain in directing the muscles, and especially those groups of muscles that have not been used while at work. On the other hand, if the brain has been used all day, your exercise should be of the kind to keep the mind at rest.

I will suggest to you now, a few breathing exercises of simpler methods. Remember, anything that is well done and worth while takes time. I would, therefore, ask you to have a little patience and perseverance.

1. (*a*) Stand erect. (*b*) Breathe deeply. (*c*) Inhale and exhale.

2. Stand erect, arms extended above the head, bend down to touch the toes, keeping the head in the line with the arms and the knees straight. Slowly resume erect position, breathe deeply and repeat movement.

3. Sit on the floor, hands on the floor at the back of the body, feet together. Then endeavour to raise the middle of the body as high as possible, moving head backwards, inhaling. Resume the original

position, exhaling, thus completing the exercises.

4. Lie flat on the floor, with kness bent up, so that heels are near buttocks; arms crossed on chest. Raise hips as high as possible, inhaling. Return to original position exhaling. This completes the movement.

5. Lie on the floor, arms extended above the head, sit up without lifting the heels and in one movement bend forward to touch the toes, keeping the knees straight.

6. Lie on the floor, arms to the sides. raise the legs with knees straight and lower again slowly.

7. Stand erect, bend head down in front, place both hands with fingers interlaced, on back of head. Now slowly bring the head back, resisting the movement by strong pressure with hands. When the head has slowly forced its way back, place your hands under the chin and press against the forward bending of the head. This exercise may be varied by forcing the head from side to side, against resistance, giving all the muscles of the neck a vigorous work out.

The above exercises are generally called curative exercises and their functions are to improve circulation and general condition of the body. These exercises help to build strong nerves. They remove constipation. Practise the movement daily as you eat, drink and sleep. Refrain from Tea, Tobacco and Alcohol as they drain the purse, harden the arteries affect the liver, weaken the heart and lungs and produce an acid state of the system. Any one (without distinction of sexes) with a normal development should be able to do the aforesaid exercises. For the purpose of self-treatment in cases of constipation, indigestion, dyspepsia, reduction of fat from the body etc., these exercises are of much value.

Exercise will benefit, you provided:

(1) You live on a wholesome diet of vital foods, well masticated and eaten only at the dictates of a normal appetite.

(2) You practise thorough cleanliness which requires regular bowels action, daily baths, immaculate teeth and skin. Bathe in cold water a least once every day and once a fortnight try to get a warm bath with plenty of soap before you retire at night.

(3) You refrain from the use of unnatural stimulants and narcotics.

(4) Wash all the clothes that you wear next to skin daily and your bed sheet and pillow cases once a week.

(5) Rub your body with a coarse towel at least for five minutes every day.

(6) Beware of nervous waste through over-work, worries and unclean thoughts and actions. Nervous weakness degrades the body, dopes the mind and upsets all the vital organs of the body more than any other devitalizing factor.

(7) Above all, cultivate a cheerful mood. Thinking is a powerful factor in maintaining health. It can actually build you up or tear you down. Remember that the body is our most glorious possession and health is our greatest asset. That man never dies, he kills himself.

Education alone, not Laws, can change Wrong Habits

"Our object is to change the daily habits of life of the woman in the home, of the man at the desk and the workbench. Such changes cannot be effected by laws but only by the slow process of education.

"If we can show the average citizen that the burden of preventable disease is a menace to the prosperity of the state, as grave as the menace of a foreign foe, we shall find a ready response."—*C. E. A. Winslow.*

IDEAL VACCINATION TECHNIC

By H. M. PAGE, M.D., *Portland, Ore.*

SMALL-POX is, like the army of the unemployed, with us always. The way to reduce the morbidity and mortality of smallpox has been shown by vaccination. The story of this achievement is a fascinating one.

The successful cow-pox inoculation was done in England in 1774 on dairy maids. To Edward Jenner is due the honour of introducing vaccination and publishing his successful results in 1798.

History and experience teach us that medicine is a progressive Science, that its practice is a progressive Art, that crude methods of the past differ from the improved methods of the present, that mass production was not unknown in the nineteenth century. Within my own memory, children in the primary grades were vaccinated at school with the same quill, without sterilization, from one donor to several recipients.

While the technic of vaccination to-day has improved concurrently with the development of the sterile needle and the aseptic tube of lymph, yet the importance of changing the site of the vaccination from the time-honoured insertion of the deltoid has not been recognised. The departure from the customary site of the deltoid to the prominence of the belly of the biceps was first brought to my attention by Hill, Provincial Health Officer of British Columbia.

The site I have selected not only fulfils Hill's requirement, but also conceals the vaccination scar. The site and technic I use are described below :—

Thoroughly cleanse the arm with acetone or alcohol, covering an area of two inches square at the inner border of the belly of the biceps. Break both ends of the capillary tube containing the vaccine, grasp the arm opposite the biceps to make the skin taut, and allow the drop of lymph to be placed on the selected site. Make multiple punctures, six or eight being sufficient, through the vaccine with a sterilized cambric needle held parallel to the skin. It is superfluous to make more than one wound of five millimeters in diameter. The best technic breaks the cuticle but does not bring blood. It is sufficient if the vaccine dries but partially. Wipe off the excess. Apply no dressings.

Why choose this site in preference to all others?

(1) The danger of infection or incapacity is no greater than on the outer side of arm or thigh.

(2) The fear or expectancy of painful lymph node involvement in the axilla is groundless. No untoward sequelæ have occurred in my practice.

(3) Woman has not enhanced her beauty or become more fashionable by the exposure of a vaccination scar when she is formally gowned on dress parade.

(4) Her morale is elevated by the consciousness that her vaccination scar is concealed from view. To paraphrase Keats, I would say, a vaccination scar is neither 'a thing of beauty nor a joy for ever'.

When both the public and the profession know the advantages of this site, the greatest objection to vaccination will be overcome. Vaccination must be made popular. We must give it speed. The baby should receive its first experience in preventive medicine by being vaccinated on its first anniversary. Every vaccinated child should be tested for its immunity by the seventh year, and revaccinated if necessary. Universal vaccination within one generation would cause smallpox to vanish from the earth.—*Medical World.*

Baby's Weight

STURDINESS of limb and a general appearance of good health count for more than actual pounds in weight where Baby is concerned. So long as he is up to the average, and increases at an average rate, Mother has no need to worry. It is a mistake to believe that the baby who is big is necessarily healthy, as sometimes the bigness is really flabbiness, and where there is flabbiness many childish ailments like rickets are more likely to occur.

Seven and a half pounds is considered about the average birth-weight for Baby. During the first week of his little life he usually loses three or four ounces, but this is quite normal, and Baby quickly makes up for the loss afterwards.

For the first three months, he should gain from six to seven ounces a week; this lessens as he grows older, but if he has doubled his birth-weight at six months and trebled it at a year you can rest assured that all is well with him.

Most mothers now-a-days do see that Baby is weighed regularly, for they realize how important a guide to his progress is his weight chart. It tells whether Baby is over-fed or under-fed or "just right"; it shows whether his food is agreeing with him or not. How does it illustrate these two points?

Well, if Baby is being over-fed, the increase in weight every week is far too great; if he is being under-fed the increase is too small. If his food is agreeing with him, his chart will show a normal gain; if it is causing him digestive upsets, the figures on his chart will probably be inconsistent, showing perhaps an increase one week and a considerable drop the week after. Where Mother feels that all is not well with Baby, she should have him "test-weighed."

If she has baby-weighing scales she can, of course, do the test-weighing successfully herself. To test-weigh your baby put him on the scales immediately before he is fed, and make a note of the result. After his feed, put him on the scales wearing exactly the same clothing as before, of course, and add small weights (it is as well to have these half ounce and similar weights handy beforehand) until the scales balance. What you have to add in small weights records the amount of food baby has taken. If you want a good guide it is as well to do this test-weighing for a day, that is, in Baby's five feeds. If you add up the amount of food Baby has taken in these five feeds, it should be somewhere in the region of eighteen to twenty-two ounces from one to two months, or twenty-five ounces at three months. If it is considerably less than this, it means that Baby is not having enough nourishment.

As a matter of fact, few babies are underfed. Mothers in their over-anxiety seem to err more on the side of over-feeding their babies. This does so often happen when Baby is breast-fed. Master Baby likes the comfort of his nursing times and is apt to prolong them if he can. If you are a nursing mother, do remember that Baby should never be fed for more than twenty minutes at each feeding-time, preferably ten minutes at each side. It is wearying for you and not good for Baby either if his feeding-times last too long. If he is a slow suckler or is easily distracted, you would be advised to keep him as quiet as possible when you are feeding him. Have your nursing chair in a corner of the room where there are no bright colours to take his eye.

Here is a guide for you to keep handy so that you can check up on it. It gives the average increases of a baby weighing seven and a half pounds at birth:

Birth ...	7 lb. 8 oz.
Two weeks ...	7 lb. 14 oz.
Three months ...	12 lb.
Six months ...	15 lb.
Nine months ...	18 lb.
One year ...	22 lb. 8 oz.

—ROSE E. POLLARD.—*Oriental Watchman.*

English Vegetarians Defy Submarines

BARLEY was at one time commonly used for bread but has now been diverted to beer-making and stock feeding. It does not make so palatable a bread as wheat or rye, but its taste can be improved by the addition of wheat flour. Dr. Hindhede, the eminent Danish scientist, has shown that the neglected cereal may be made very acceptable as human food.

England is making a desperate struggle to feed her people in spite of menace of the submarine and airplane. It has been pointed out that 1,500,000 pigs could be nourished on the barley used in brewing. A farmer who is quoted in the *Vegetarian Messenger and Health Review* (March, 1940) has a far better suggestion. He points out that, "You can feed many more people on wheat as bread than on the eggs produced by feeding that wheat to hens; many more people on barley bannocks than on the pork and bacon produced from feeding that barley to pigs; many more people on oats as porridge than on the meat and milk produced from feeding those oats to livestock."

It is quite clear that prohibition and vegetarianism would enormously aid England in her war.—*Good Health (U. S. A.)*

Flour Made of the Entire Wheat

ONE of the grievous faults of nutrition in this country is the general use of white flour, which has been deprived of much of its vitamin and mineral content. A new method of milling wheat has been introduced in England which apparently would do away with this evil. It is described by Sir Leonard Hill in the *Lancet* (May 11, 1940). By means of forced air and steel cutting knives, the whole of the bran, germ, starch grains etc., is broken down into a fine flour. This contains only about eight and a half per cent of water instead of the usual fifteen per cent; it has fourteen and a half per cent of protein in place of the nine per cent of white flour, and all the minerals and vitamins A. B. and E.

Owing to the small percentage of water and the fine milling process, this flour keeps very well and makes excellent bread. One great reason for the popularity of white flour is that that the whole wheat product spoils readily under the present milling process. If the complete cereal were eaten, there would be an end to the deficiency in the vitamin B group which affects so large a part of the population. Sir Leonard points out that the parts rejected by the miller are fed to animals which are not necessary for healthy existence, if conditions become hard. This is a practical indorsement of vegetarianism. He says further that millions of Russians live on black bread and vegetable soup; they could not live on white bread.—*Good Health (U. S. A.)*

Our Teeth

YOU have already been told a good deal about how to use the toothbrush to keep your teeth clean. You, of course, know that the use of ever so many toothbrushes does not make teeth clean, and this is important enough in itself.

There is something else, though that must be done in order to have good teeth, and that is to eat the kind of food that will supply material to make good teeth.

It takes lime to make good teeth, and if the food does not have enough lime in it to make good sound teeth, as well as the bones of the body, there will be soft places in the teeth, and those soft places will begin to decay.

It's these decayed spots in the tooth that lead to toothache, for the decayed places get larger and larger, until after a while they reach the nerve, and then—Ouch ! ! ! You know it. That means suffering, and perhaps the loss of the tooth, for the dentist, with all good work and care, may be able to save it only for a time.

If we will begin early to build good teeth and to take care of them, they will last us. It surely must be a good deal easier and better to look after our teeth, eating the food that will build sound teeth, and keeping them clean, than to have the toothache. Foods that make sound teeth are milk, whole-wheat cereals, vegetables, and fruits, — *Life and Health.*

Pneumonia Prevention by Vaccination May Be Possible

PNEUMONIA prevention by vaccination of all susceptible persons may be possible within three years, if the plan proposed at the Conference of State and Territorial Health Officers with the United States Public Health Service goes through.

The plan was proposed by Dr. Llyod D. Felton, U. S. Public Health Service, in a report of the pneumonia vaccine he has prepared and which has been getting its preliminary trial on CCC men.

This vaccine can reduce the number of pneumonia cases at least one half, Dr. Felton found by comparison with a similar group by non-vaccinated persons. The death-rate can be reduced to at least that obtained by treatment of pneumonia with serum.

The vaccine, moreover, can apparently pick out in a group of people those who are especially susceptible to the ailment. Most persons vaccinated showed no reaction to the vaccine itself but a few, about one-tenth, did have a reaction after the first dose of vaccine.

Dr. Felton's plan is to make skin tests with the vaccine of a large group of persons and to watch these people over a period of three years. The persons tested would be divided into two groups, those who reacted to the skin test and those who did not. If more pneumonia cases developed during the three years among the ones the test showed to be susceptible than among the other group, it would indicate that the test really picked the susceptibles.

With this as a basis, it would not be necessary to vaccinate the entire population against pneumonia. The ones needing the vaccination could be picked by preliminary skin testing, just as children needing toxoid to protect them against diphtheria are now picked by preliminary Schick testing.—*Science News Letter.—O.W.*

Sugar as Shock Resister

IT has been discovered by Dr. William Y. Baker Seattle that a strikingly large number of "nervous" patients have abnormally low concentrations of sugar in their blood. He found also that normal persons as well as neurasthenics had low blood-sugar levels.

So a lump of sugar or some other sweet helps to allay anxiety, fear, apprehension, tension states, sleeplessness, sweating, and spells of uneasiness, so prevalent in these apprehensive days.

For this reason it may be a good plan to hand round the sweet bag in an air-raid shelter during raids. Cheerful conversation and a few sweets may do much to lessen air-raid tension.—*Good Health (Lond.)*

Good Health Defined

"GOOD Health depends primarily upon right habits of thought. Harmonious thought stimulates and nourishes the body."

The Apple Cure

THE apple has long held its place as the most popular and useful of fruits grown in the temperate zones, but it has been too much regarded as a luxury rather than as a nutrient of high value. The nutritive value of fruit and vegetable juices is generally much underestimated. This is especially true in relation to the apple. Fresh apple juice, in fact, represents by far the larger part of the total nutrient value of the fruit. The juice of a sound apple of a good variety, such as the Delicious, McIntosh, Greening, Russet or Northern Spy, has two-thirds the value of an equal quantity of milk. Its protein content is of course low, its solids being chiefly made up of carbo-hydrates,—fruits sugars, malic acid and dextrins.

' Raw juice is preferable to cooked, both in flavor and in nutritive value. However, the flavor is very little impaired by heating to 165 degrees for 15 or 20 minutes. If sufficient care is taken in bottling, heating to a temperature of 165 degrees will usually suffice for preservation.

Recent observations reported by many physicians in this country, as well as abroad, have shown that the apple has an important value as a remedy for various forms of illness, particularly intestinal troubles. The free use of raw apples and freshly expressed apple juice has a decidedly laxative effect. Apples if very thoroughly chewed may be taken at meals or between meals. If thoroughly masticated, a ripe apple, as shown by Beaumont's experiments, leaves the stomach within an hour after eating and consequently may be taken before retiring if care is taken to chew it thoroughly. Eating an apple or two late in the evening is a good means of encouraging an evacuation of the colon at this time, which is highly desirable. A dietary consisting chiefly of apples has been used successfully as a means of reducing weight.

An old prejudice which formerly hindered many persons from the use of apples was based upon the idea that the acidity of the apple makes it injurious for persons suffering from rheumatism or arthritis and that its free use may encourage the development of these diseases. This is altogether an error since it has been known for many years that the acids of fruits are quickly burned in the body like starch, sugar and other carbohydrates, so that they have no acidifying effect upon the blood or tissue fluids. On the contrary, because they are always found in fruits in a state of combination with soda or potash, they leave an Alkali behind when digested and hence tend to lessen rather than to increase any tendency to acidity.

There is of course little protein in the apple, but the small amount present is of very high quality. The Vitamin content is small. Vitamin C is present in much smaller quantity than in the orange and is said to be chiefly found in the skin, so that apple juice has little value as a source of this Vitamin compared with that of citrus fruits.

Some years ago, Dr. MORO of Heidelberg, Germany, a well known pediatrist, made careful study of the apple as a remedy and established its value as a means of combating intestinal disorders in young children. In cases of diarrhœa, relief is usually obtained by its use within forty-eight hours after the beginning of treatment.

In recent years, attempts have been made to utilize the pumice left as a by-product in the making of apple juice by drying it and reducing it to a powder, but no definite results have as yet been obtained.—*Good Health (U. S. A.)*

Sense of Taste

TASTE is a regressive sense in man, as he tastes only with his tongue while some animals, for example, fish, taste with their whole body, according to a paper by Dr. Harald Tangl, lecturer at the University of of Budapest, recently summarized in *The Journal* of the American Medical Association by its regular Budapest correspondent.

"An infant tastes with the middle part of his tongue," the report said, "and an adult determines with the sides of his tongue whether food is pleasing or not. The whale has very few taste buds and gulps its food so quickly that it does not bother about the taste. Among horned cattle, taste is important, and they scrupulously select the grasses they like. The cow has about 15,000 taste buds, the antelope 50,000 and man 3,000.

"We know four distinct tastes: sweet, salty, bitter and sour. The sweet taste is perceived on the tongue the quickest, because the buds reacting on sweets are located at the tip of the tongue; then comes salty and then sour taste. Bitter things are tasted at the back of the tongue.

"Taste can be regulated. Warm coffee requires less sugar than cold, because warmth is a stimulant to the taste buds. However much sugar is put into ice-cream it will not seem too sweet, because when cooled the taste buds scarcely function. If the tongue is rubbed with ice, one fails to perceive different tastes, a good method in taking bitter drugs. Taste is such a fine sense that it cannot be overtaken by chemical procedures. The taste can be trained. Tea tasters are able to tell the place of origin of a tea after a single tasting. Wine tasters can tell from where a certain variety of wine came and also whether the grapes from which it was made grew in a sunny or a shady field."—*O.W.*

'Worry over Worry'

"EVERYBODY worries", says Victor L. Mann, M.D., "everbody fears, and everybody, at one time or another, questions his adequacy. In fact if such worries are absent from the mental life, there is something seriously wrong. The greatest worry is the worry over worry, the most intense fear is the fear of fear, and the most stubborn inferiority complex is the inferiority-complex over a feeling of inadequacy. It is part of the work of thought hygiene to keep these propensities within normal, useful limits."—*Good Health (Lond.)*

Is Vitamin-A Lost in Cooking?

THE medical men have been led to the belief that cooking is detrimental to the Vitamin contents of food in varying proportions. So much so, there was a time, not long ago, when they used to seriously advise their patients *back to raw foods.* But the patients—particularly the Indian patients—would not give up the habit of cooking. The scientific tide seems to have changed in favour of the patients who like cooked food. De and Majumdar now publish their recent work—*the effect of heat, cooking, æration, hydrogenation, etc , on the Vitamin A and carotene content of certain food stuffs of both animal and vegetable origin.* They conclude that they are not affected to any appreciable extent by boiling in water in open vessels. They have, however, found that æration and hydrogenation, and also heating on a water bath in open vessels, were found to cause considerable destruction of the Vitamin A contained in butter, ghee, Cod-liver Oil and Red Palm-Oil. They state further that ghee used in frying potato chips loses a considerable portion of its Vitamin A content during each operation of frying. Sour whole milk was also found to be poorer in Vitamin A than the original milk from which it was prepared: the loss was greater when the curd was prepared by fermenting milk at 51°C than at room temperature. It is also interesting to note that prolonged heating causes a marked loss of Vitamin A from milk. Cooking at ordinary temperature seems, however, to be a safe procedure, particularly in view of recent work that Vitamins, except perhaps Vitamin C, are not affected under moderate cooking. This is indeed a great consolation to the Indian patients who have imbibed the habit of cooking their food since time immemorial.—*The Indian Medical Journal.*

The Banana Cure for Diarrhœa

BOTH the apple and banana have been used successfully in this country and in Europe for diarrhœal diseases of infants and children. One advantage of this tropical fruit over the apple is that it is richer in Calories. It also has a considerable amount of Chlorin, Sodium and Potassium, which according to German authorities, cause increased water retention and prevent too great a loss in weight.

Dr. C. LORING JOSLIN, of the University of Maryland School of Medicine, reports in the *Southern Medical Journal* the result of banana therapy in thirty cases of diarrhœa, fourteen of dysentery and ten of typhoid fever, all treated in a hospital. Usually only water was given the first twenty-four hours. Both banana powder and the raw fruit were employed. From one to two ounces of the dried form were fed each day. The fruit was fully ripe; that is, the pulp was soft and the peel flecked with brown. From two to five bananas, mashed and put through a fine sieve, were eaten daily. In severe cases, fat-free Bulgarian butter milk or boiled skim milk was part of the diet.

The diarrhœa ceased much sooner on the banana fare than with the controls. There was also an average gain in weight as against a loss in the other group. Similar results were obtained in the dysentery cases. There was an immediate and appreciable reduction in the number of stools. In typhoid fever only those patients were benefited who had diarrhœa. The powder proved very effective in diarrhœa, while the raw fruit was more efficacious in dysenteries and typhoid in older children.

Metchell showed many years ago, that the stools of bats fed on bananas were free from bacteria and putrefaction and had an odor closely resembling that of bananas.

The banana because of its large content of carbohydrates supplies a good nutrient medium for the protective bacteria. It is probably less active than Lacto-Dextrin but may be advantageously used together with this highly efficient means of combating intestinal putrefaction and especially infections affecting the colon.—*Good Health (U.S.A.)*

To Increase Vitality

BUT just as the violin must be kept in good condition in order to enable the artist to draw from it the harmonies of sound, so food and drink are necessary to keep the physical body in the best possible condition for the manifestation of vital force. The more normal our physical and spiritual bodies are in structure and function, the more harmonious our thought life and emotional life, the more abundant will be the influx of vital force into the two-fold organism.

Ignorance of these simple truths leads to the most serious mistakes. Physicians and people in general do not stop to think that excessive eating and drinking tend to *rob* the body of vitality *instead of supplying* it.

The processes of digestion, assimilation, and elimination of food and drink, in themselves require a considerable expenditure of vital force, therefore all food taken in excess of the actual needs of the body consumes life force that should be available for other purposes, for the execution of physical and mental work.

The Romans had a proverb: "*Plenus venter non studet libenter*"—"*A full stomach does not like to study.*" The most wholesome food, if taken in excess, will clog the system with waste matter just as too much coal will dampen and extinguish the fire in the furnace.

Furthermore, the morbid materials and systemic poisons produced by impure, unsuitable, or wrongly combined foods will clog the cells and tissues of the body, cause unnecessary friction, and obstruct the inflow and the operations of the vital energies, just as dust in a watch will clog and impede the movements of its mechanism. (Henry Lindlahr, M.D.)—*Health for All.*

Cure of Prostitution

FROM the social standpoint prostitution is a sore on the body politic leading to crime and disease, and therefore something to be tackled primarily as a problem of public health and social hygiene. The religious standpoint is older and more obvious ; and it was religious organizations that made the earliest and most persistent attempts at reclamation. The outlook until recently has been almost hopeless, for only a small minority of prostitutes want to be helped. Many take to the life because they are mentally subnormal. Many do so from laziness, or because they have psychopathic temperaments, or from chronic ill health or moral weakness. It is as a rule only when labour conditions, destitution or an unhappy childhood have driven a woman into prostitution that there is much real hope of rehabilitating her ; and naturally the younger the prostitute the more easily she responds.

In their third and final volume on this subject, which is complete in itself, the League of Nations Committee of Investigation describes the facilities available for giving assistance in the various countries and how these are made known by the authorities to those they wish to rescue..—*The Lancet; Feb. 17, 1940-P. 323.—National Health Review.*

Cancer and Liquor

THE eminent British scientist Prof. J. B. S. Haldane, in a discussion of cancer deaths in the *New Chronicle* (London), declares that research on the cause of cancer in the British Isles have revealed the fact that there is a definite relation between the excessive use of alcohol and cancer. He states that the death rates in the alcoholic trades from cancer of the mouth, throat, and gullet at ages under sixty-five are more than double the average. He also says that cancer among beer drinkers is particularly common. "*In fact,*" *this* scientist avers, "a man is about five times as likely to get cancer if he drinkes beer daily, and no milk, as if he drinks milk daily and no beer."—*Health.—National Health Review.*

Boiled Water used by Cyrus the Great

THAT a safe water supply was considered essential to an army by the military leaders of ancient times is evident from a statment in in Herodotus that Cyrus the Great of Persia carried with him on his military expeditions boiled water from the Coaspes River transporting it in silver vessels on four wheeled wagons. This famous general died about 530 B.C.

There is a later record that Aristotle advised Alexander to boil the water he took with him on desert marches to keep it from getting sour. It took nearly twenty five centuries for men to take advantage of the lesson that these ancient rulers had learned, states the Health News of New York State.

Dry Throats

SWEETS and starchy foods, eaten just before singing, absorb a great deal of water from the system, having the effect, therefore, of making the throat dry.—*Fact Digest.*

Health Tit-Bits

He Liveth Long Who Liveth Well

He liveth long who liveth well !
All else is being flung away ;
He liveth longest who can tell
Of true things truly done each day.

—*Horatio Bonar.*

* * *

Moscow Mosquito

THE inhabitants of Moscow are called Mosquitoes. That explains why malaria was raging all over Russia before the introduction of quinine.—*The Kemcol.*

* * *

The Two Greatest Plagues

THE two greatest plagues ever to afflict the human race are believed to have been the Black Death (bubonic plague) of the fourteenth century, which killed an estimated 25,000,000 persons ; and the 1918 influenza, which took 20,000,000. lives.—*O W.*

* * *

Think of Just and Honset Things

WHATSOEVER things are true, whatsoever things are honest, whatsoever things are just whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report ; if there be any virtue, and if be there any praise, think on these things.—*St Paul.—The Treasure Chest*

* * *

Cure for Leprosy

FROM *Kuming China, comes the report that* three physicians have achieved almost complete cures of leprosy by injections of diphtheria toxoid. Also, for the first time in history, they have succeeded in giving animals leprosy, or a disease that has all its characteristics, by feeding them colocasia root and injecting leprosy bacillus.—*O. W.*

* * *

A good source of Vitamin B.

RICE hulls *yields crystals of pure vitaminsB,* which are used with remarkable success in the treatment of Neuritis. A pinhead of the vitamin is enough for a day's dose for neuritis, and a similar small dose will relieve certain case of diabetes.—*O. W.*

* * *

A Stitch in Time Saves Nine

A little neglect may breed great mischief :
For want of a nail the shoe was lost ;
For want of a shoe, the horse was lost ;
And for want of a horse the rider was lost,
Being overtaken and slain by an enemy—
All for want of a little care
About a horse shoe nail.

—*Benjamin Franklin.*